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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,323

05/18/2005

Maria Petrou

05-405

5681

20306

7590

12/23/2008

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EXAMINER

AZARIAN, SEYED H

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

12/23/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/535,323	PETROU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seyed Azarian	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-29 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/8/2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **RESPONSE TO AMENDMENT**

1. Applicant's arguments, filed 9/16/2008, see page 11 through page 17 of the remarks, with respect to amended claims 1, 4, 8, 9, 11, 12, 15, 19 and 20-29, have been fully considered and are persuasive. However, upon further consideration, a new ground(s) of rejection is made.

### ***Claim Rejections - 35 USC § 101***

2. Claims 1-11 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal Circuit decisions indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. For example claim 1, "a method of histological assessment of nuclear pleomorphism by identifying image region comprising". While the claims recite a series of steps or acts to be performed, the instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

## **REASONS FOR ALLOWABLE CLAIMS**

3. The following is an examiner's statement of reasons for allowance.  
Claims 12-29 are allowable.

Based on applicant's amendment, with respect to claim 12 representative of claims 15, 20, 21 and 24 the closest prior art of record (Gabib and Lee), Gabib reference is directed to spectral methods in general and, more particularly, to spectral imaging methods for cell classification, biological research, medical diagnostics. Lee reference is directed to an automated cytology system and more particularly to an automated cytology that identifies and classifies free-lying cells and cells having isolated nuclei on a biological specimen slide, but neither Gabib nor Lee teach or suggest, among other things, "identifying image regions comprising respective groups of contiguous pixels and potentially corresponding to cell nuclei in histological image data, the apparatus incorporating a computer programmed to threshold the image data to render it binary with identified image regions and background distinguished from one another by association with different binary digits to determine perimeters and areas of identified image regions, calculate image region shape factors from the perimeters and areas and to assess nuclear pleomorphism from the shape factors statistical parameters".

Additionally claim 19 representative of claim 28, the closest prior art of record (Gabib and Lee) do not teach or suggest, among other things, "divide the colour image data into overlapping sub-images, apply Principal Component Analysis (PCA) to the sub-images to obtain grayscale sub-images as first principal component in order to provide improved image definition compared to an individual red, green or blue plane in the colour image data, remove from the grayscale sub-images: i) image regions touching or intersecting sub-image boundaries, ii) unsuitably small image regions, and iii) holes in relatively large image regions, d) reassemble the sub-images into a binary image by thresholding, e) determine perimeters and areas of identified image regions, and

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f) calculate image region shape factors from the perimeters and areas and assess nuclear pleomorphism from the shape factors' statistical parameters”.

These key features in combination with the other features of the claimed invention are neither taught nor suggested by (Gabib and Lee) prior art of record.

### **Contact Information**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehta Bhavesh, can be reached at (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*/Seyed Azarian/  
Primary Examiner, Art Unit 2624  
Group Art Unit 262  
December 20, 2008*